



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,248	12/09/2003	Junji Sakata	Q78868	3363
23373	7590	06/16/2005	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			GLEITZ, RYAN M	
			ART UNIT	PAPER NUMBER
			2852	

DATE MAILED: 06/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/730,248	Applicant(s) SAKATA ET AL.	
	Examiner Ryan Gleitz	Art Unit 2852	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 May 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/9/03</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

Currently the drawings show only the Prior Art. The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish a drawing under 37 CFR 1.81(c). No new matter may be introduced in the required drawing. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d).

The drawings are objected to because figure 1 does not include hatching to reflect the materials of the developing roller as disclosed by the specification and claimed. The hatching presently shows the elastic layer and the resin layer as being formed of metal. See MPEP 608.02.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the fine particles, the dimensions of the fine particles, the dimensions of the resin outer layer, the conductive agent, and the mold must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the

Art Unit: 2852

drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4, 7, 8, 10, 11, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamazaki et al. (US 2001/0036376).

Yamazaki et al. disclose a developing roller (6) comprising a shaft as shown in figure 5. An elastic layer formed on the outer periphery of the shaft. See [0050], line 10. At least one resin outer layer is formed on the outer periphery of the elastic layer. See [0050], line 10. Fine particles are dispersed in the resin outer layer. See [0050], lines 10-17.

Regarding claim 4, the thickness of the resin outer layer is in a range of 1 to 100 microns. See [0050], line 3.

Regarding claims 7 and 8, the fine particles are fine particles of a synthetic resin such as melamine resin. See [0050], lines 5-6.

Regarding claim 10, the resin outer layer contains a conductive agent. See [0008].

Regarding claim 11, the content of the conductive agent is in a range 0.01 to 5 parts by weight, which reads with sufficient specificity on a range of 0.01 to 20 parts by weight relative to 100 parts by weight of the resin.

Regarding claim 13, the developing roller is in an image forming device.

Claims 1-5 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Mimura et al. (US 6,360,069).

Mimura et al. disclose developing roller comprising a shaft (11), an elastic layer (12) formed on the outer periphery of the shaft, and at least one resin outer layer (13) formed on the outer periphery of the elastic layer, wherein fine particles are dispersed in the resin outer layer. See col. 2, lines 50-60.

Regarding claim 2, the mean particle diameter of the fine particles is in a range of 1 to 50 microns. See col. 2, lines 62-64.

Regarding claim 3, the content of the fine particles is in a range of 0.1 to 100 parts by weight relative to 100 parts by weight of resin. See mixture examples, col. 14-17.

Regarding claim 4, the thickness of the resin outer layer is in a range of 5 to 50 microns, which reads on the claims range of 1 to 100 microns with sufficient specificity. See col. 3, lines 25-26.

Regarding claim 5, the ratio of the mean particle diameter "a" of the fine particles and the thickness "b" of the resin outer layer, i.e. "a/b", is in a range of 0.02 to 1, which reads on the claimed range of 0.03 to 0.5 with sufficient specificity.

Regarding claim 13, the developing roller is in an image forming device.

Claim 1, 6, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Achiha et al. (JP 2002-310136).

Achiha et al. disclose a developing roller comprising a shaft, an elastic layer formed on the outer periphery of the shaft, and at least one resin outer layer formed on the outer periphery of the elastic layer. See abstract, lines 5-9. The resin outer layer is inherently formed of particles, which reads on fine particles that are dispersed in the resin outer layer. See also, [0014]-[0016].

Regarding claim 6, the resin outer layer is made of a ultraviolet-curable resin. See abstract, lines 8-9.

Regarding claim 13, the developing roller is in an image forming device.

Claims 1, 12, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Hayashi et al. (US 6,096,395).

Hayashi et al. disclose a developing roller comprising a shaft (12), an elastic layer (14) formed on the outer periphery of the shaft (12), and at least one resin outer layer (16) formed on the outer periphery of the elastic layer (14). The resin outer layer is inherently formed of particles, which reads on fine particles that are dispersed in the resin outer layer.

Regarding claim 12, the elastic layer is molded in a mold. See col. 4, lines 17-18. The resin outer layer is formed without grinding the surface of the elastic layer. See col. 3, lines 39-43.

Regarding claim 13, the developing roller is used in an image forming device.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 9, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over in Takagi et al. (JP 09-269652) in view of Eguchi et al. (JP 63-307465).

Takagi et al. disclose a developing roller (1) in an image forming device including a shaft (2), an elastic layer (3) formed on the outer periphery of the shaft (2), and at least one resin outer layer formed on the outer periphery of the elastic layer (3). See abstract, lines 7-17.

Takagi et al. do not disclose glassy carbon particles.

However, Eguchi et al. disclose amorphous non-oriented glassy carbon powder and a phenolic thermosetting resin to be carbonized and dispersed for forming the ferrite carrier, which is used to improve image quality. See abstract, lines 1-8.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the developing roller of Takagi et al. with the fine glassy carbon particles taught by Eguchi to reduce the variance of image quality. Abstract, lines 1-3.

Other Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 2852

Ohtaka et al. (US 5,707,726) disclose an aluminum pipe having a resin layer with fine carbon particles dispersed.

Onuma et al. (JP 54-103042) disclose a developing roller with carbon particles dispersed.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan Gleitz whose telephone number is (571) 272-2134. The examiner can normally be reached on Monday-Friday between 9:00AM and 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley can be reached on (571) 272-2136. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


rg



**Arthur T. Grimley
Supervisory Patent Examiner
Technology Center 2800**